

INTRODUCTION

EnSight provides up to fifteen user-defined viewports in the Graphics Window. Each viewport is a rectangular region of the screen (with or without a border) displaying some or all of the currently visible parts. Each viewport can be transformed (e.g. rotated or zoomed), sized, and positioned independently. Viewports have several display attributes including background and border color. Viewports provide a very flexible environment for data display.

This article is divided into the following sections:

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BASIC OPERATION

Create a New Viewport

On startup, EnSight creates a single viewport that fills the Graphics Window. Although you can change the background color of this default viewport, you cannot alter it in any other way (such as repositioning). Viewports you create can be freely manipulated. To create a new viewport:

1. Click VPort in the Mode Selection area to enter Viewport mode.

2. Click the New Viewport icon.



Select Viewports

When you create a new viewport, it automatically becomes the *currently selected viewport* (as shown by the border drawn in the default highlight color). Any action to change viewport attributes always operates on the currently selected viewport(s). To select viewports:

1. Click VPort in the Mode Selection area to enter Viewport mode.
2. Move the mouse pointer into the Graphics Window and click the left mouse button anywhere within the desired viewport. You can add to an existing selection by holding down the Control key as you click in additional viewports.

Note that the selected viewport is also changed in other modes (such as View) any time you perform some action in a viewport (such as rotation). There is however, no visual feedback of this change until you enter VPort mode again.



Move and Resize Viewports

User created viewports can be easily moved and resized. You can either reposition a viewport with the mouse in the Graphics Window, or precisely by entering exact values. To move or resize a viewport:

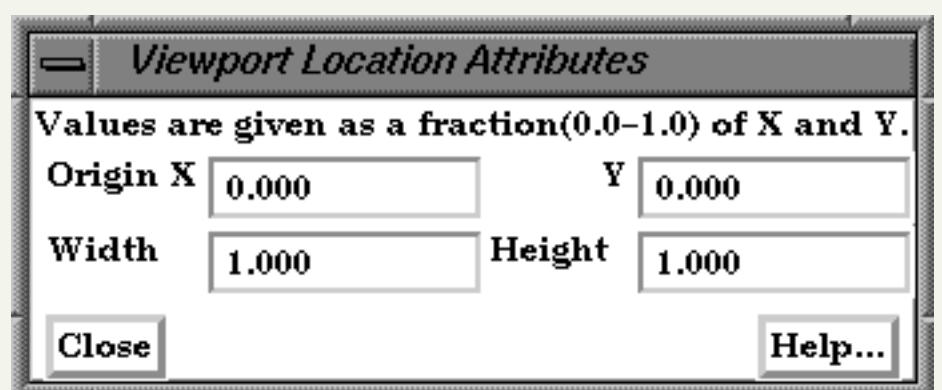
1. Click VPort in the Mode Selection area to enter Viewport mode.
2. Select the desired viewport.
3. To move a viewport, move the mouse pointer into the Graphics Window and into the selected viewport. Click and hold the left mouse button and drag the viewport to the desired location.
4. To resize a viewport, move the mouse pointer into the Graphics Window and place it over one corner of the selected viewport. Click and hold the left mouse button and drag the corner to the desired location.

To precisely reposition a viewport:

3. Click the Viewport Location Attributes icon to open the Viewport Location Attributes dialog.



4. Enter new values in the Origin X,Y, Width, or Height fields (and press return).



The origin (at 0,0) is the lower left corner of the Graphics Window. Note that the values are normalized to the width and height of the default viewport (*i.e.* the Graphics Window).

EnSight permits overlapping viewports. You can control the ordering (from front to back):

- Click The Viewport Forward icon to bring the selected viewports to the top.



- Click The Viewport Back icon to send the selected viewports to the bottom.





Set Viewport Background Color

Viewport background colors can be constant, blended, or inherited from the default viewport. To set viewport background color:

1. Click VPort in the Mode Selection area to enter Viewport mode.
2. Select the desired viewport(s).
3. Click the Color icon to open the Viewport Background Color Attributes dialog.

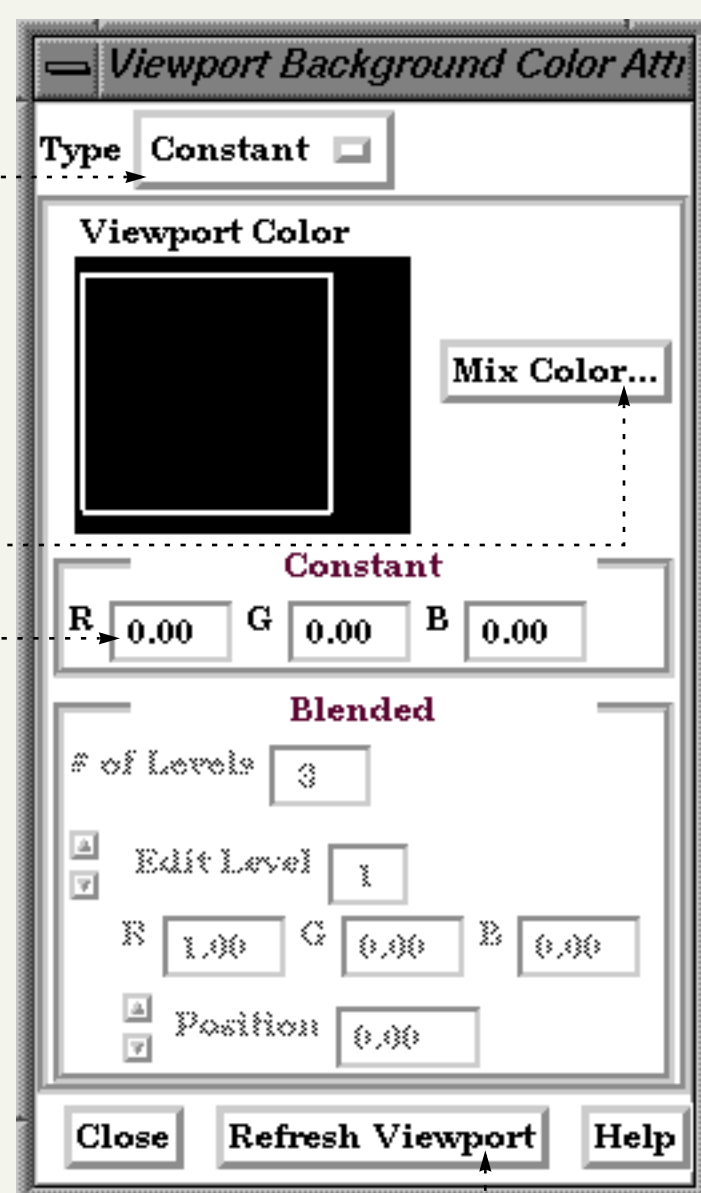


The Type pulldown controls the type of background coloring used. There are three types: Constant, blended, and inherit.

Constant

A constant color will be used for the entire background. To set a constant color:

4. Select Constant from the Type pulldown.
5. Either enter values in the RGB color fields (and press return OR click the Mix Color... button to open the [Color Selector](#) dialog.

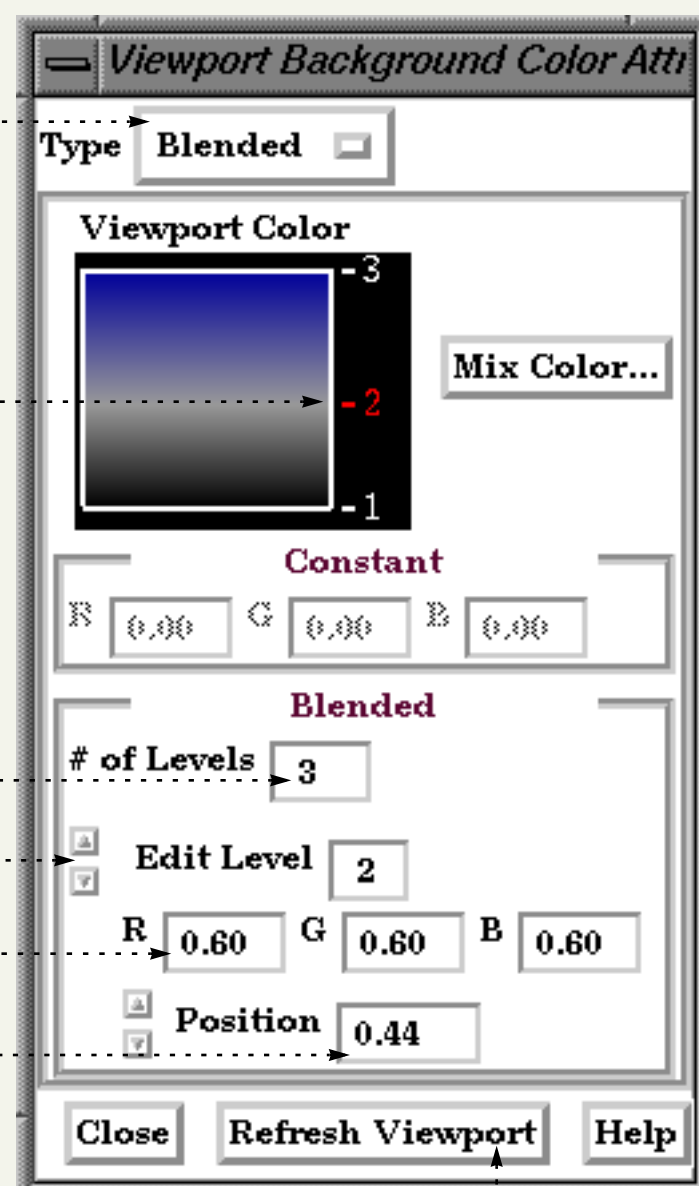


6. Click Refresh Viewport.

**Blended**

Up to 5 horizontal level colors can be specified with interpolation between levels. To set a blended background:

1. Select Blended from the Type pulldown.
2. Enter the desired number of levels in the # of Levels field (and press return). Up to five levels are supported.
3. To edit a color, first select it by clicking on the number label in the Viewport Color window. As shown, level 2 is currently selected. Alternately, you can enter a value in the Edit Level field or click the up/down arrows.
4. Change the selected color by either entering new values in the RGB fields (and pressing return) or clicking the Mix Color... button to open the [Color Selector](#) dialog.
5. You can also change the relative vertical position of a level by either clicking on the level number with the left mouse button and dragging up or down OR by entering a new value in the Position field (and pressing return).
6. Click Refresh Viewport.

**Inherit**

The selected viewports inherit the background type and color from the default viewport. To set an inherited background:

1. Select Inherit from the Type pulldown.
2. Click Refresh Viewport.



Set Viewport Attributes

Viewports can be displayed with a variety of attributes:

1. Click VPort in the Mode Selection area to enter Viewport mode.
2. Select the desired viewport(s).
3. Set the desired attribute as described below:

Click the Viewport Visibility Toggle to toggle display of the selected viewports on or off (when not in VPort Mode).

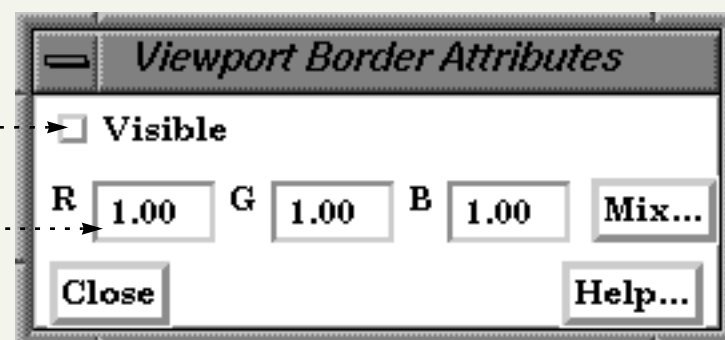


Click the Viewport Border Attributes icon to open the Viewport Border Attributes dialog.



Click the Visible toggle to display a border.

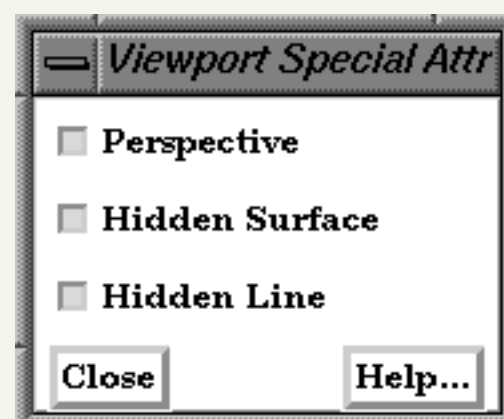
Enter values in the RGB fields (and press return) or click the Mix... button to open a [Color Selector](#) dialog.



Click the Viewport Special Attributes icon to open the Viewport Special Attributes dialog.



Each viewport has it's own toggles for perspective, hidden surface, and hidden line drawing styles. These controls will toggle the respective attribute for the selected viewports. See [How To Set Drawing Style](#) and/or [How To Set Global Viewing](#) for more information.





Display Selected Parts in Viewports

Part visibility can be set on a per-viewport basis such that some parts are visible in some viewports but not in others. To set part visibility per viewport:

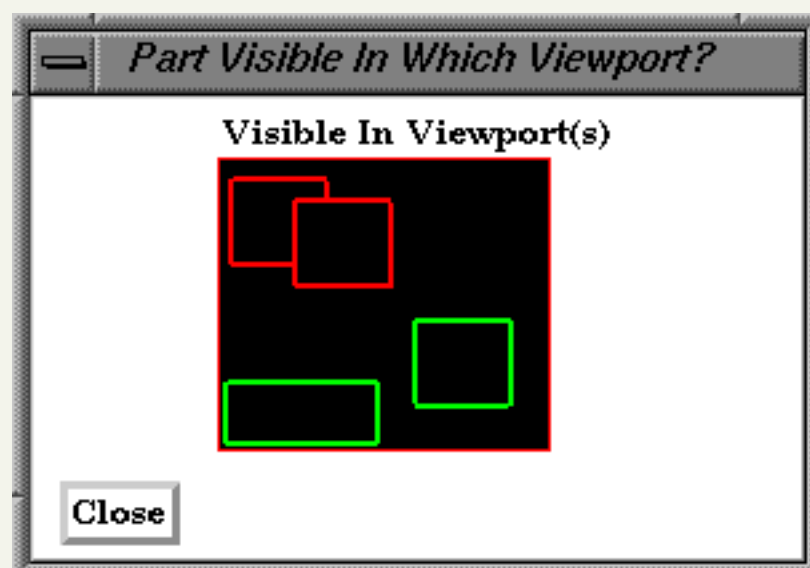
1. Select the desired part(s) in the Main Parts list.
2. Click the Part Visibility in Viewport Toggle icon.



The Part Visible in Which Viewport? dialog displays a schematic of the current viewports. The part is currently visible in the green viewports but invisible in the red viewports.

3. Click in a green viewport to disable display of the selected part(s) in that viewport OR click in a red viewport to enable display of the selected part(s) in that viewport.

Note that a similar interface for setting this attribute appears in the General Attributes section of the Feature Detail Editor dialog.



Set Case Visibility Per Viewport

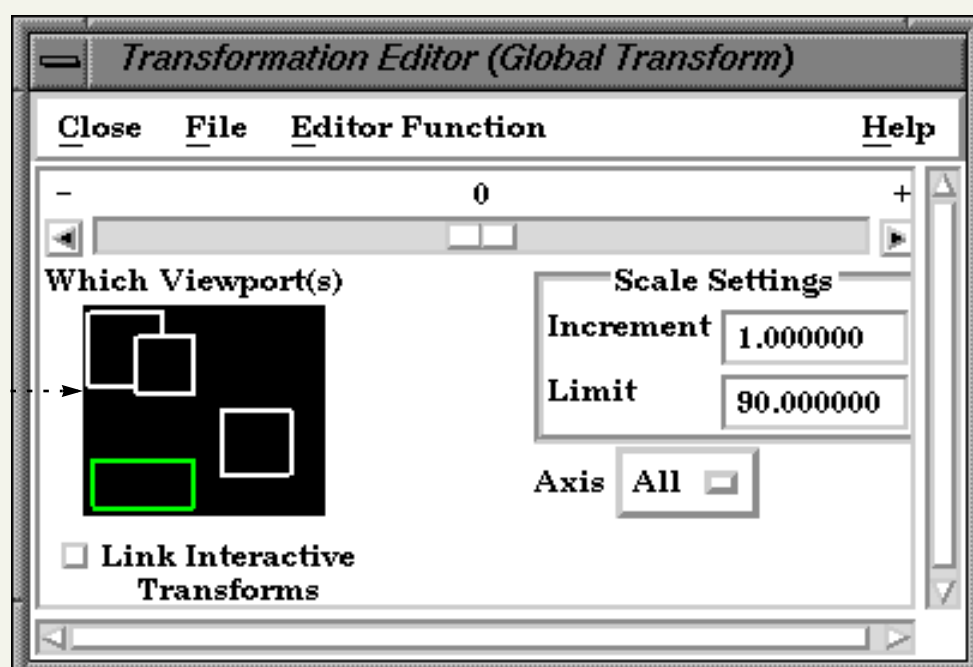
If you have multiple **cases** in your session of EnSight, you can set viewport visibility for all parts associated with a case. This makes it easy to display one case per viewport. To set case visibility per viewport:

1. Select the desired case from the Case menu (Case > *casename*).
2. Select Case > Viewport Visibility to open the Case Visible in Which Viewport? dialog.
3. Click in a green viewport to disable display of the selected case in that viewport OR click in a red viewport to enable display of the case in that viewport.

Perform Transformations in Viewports

You can transform objects in a user-created viewport as easily as in the default viewport (See [How To Rotate, Zoom, Translate, Scale](#) for details). For precise viewport transformations, you can use the Transformations Editor on a per viewport basis:

1. Click Exact Transf in the Transformations Control area.
2. To perform precise transformations in a viewport, click the desired viewport in the Which Viewport(s) window and perform the transformation.



Note that this action will change the currently selected viewport(s).

Reset Viewport Transformations

Delete Viewports

A created viewport can be deleted at any time:

1. Click VPort in the Mode Selection area to enter Viewport mode.
2. Select the desired viewport(s).
3. Click the Delete icon.



Other Notes

You can interactively transform multiple viewports simultaneously by selecting the viewports you want to link together and turning on the Link Interactive Transforms toggle. An “L” will be displayed in all linked viewports.

You can copy the transformations from one viewport to another. First select the viewport you wish to copy, then select Editor Function->Copy Transformation State. Next select the viewport(s) you wish to modify and select Editor Function->Paste Transformation State.

SEE ALSO

[How To Rotate, Zoom, Translate, Scale](#)

User Manual: [VPort Mode](#)